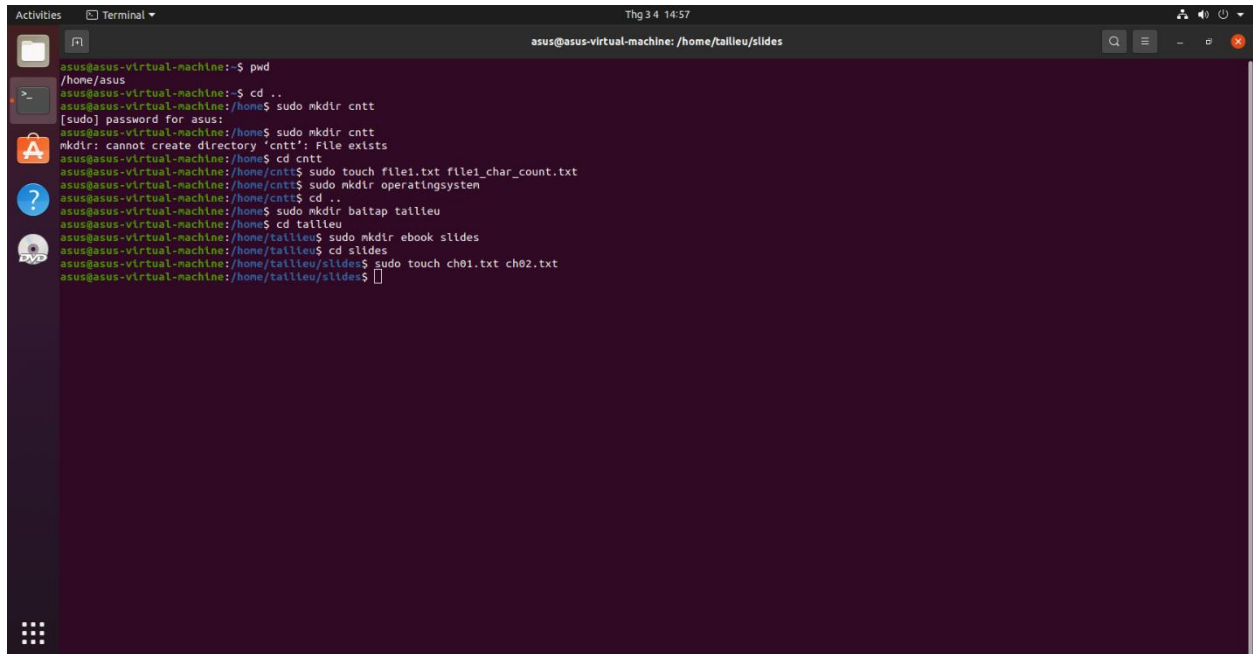
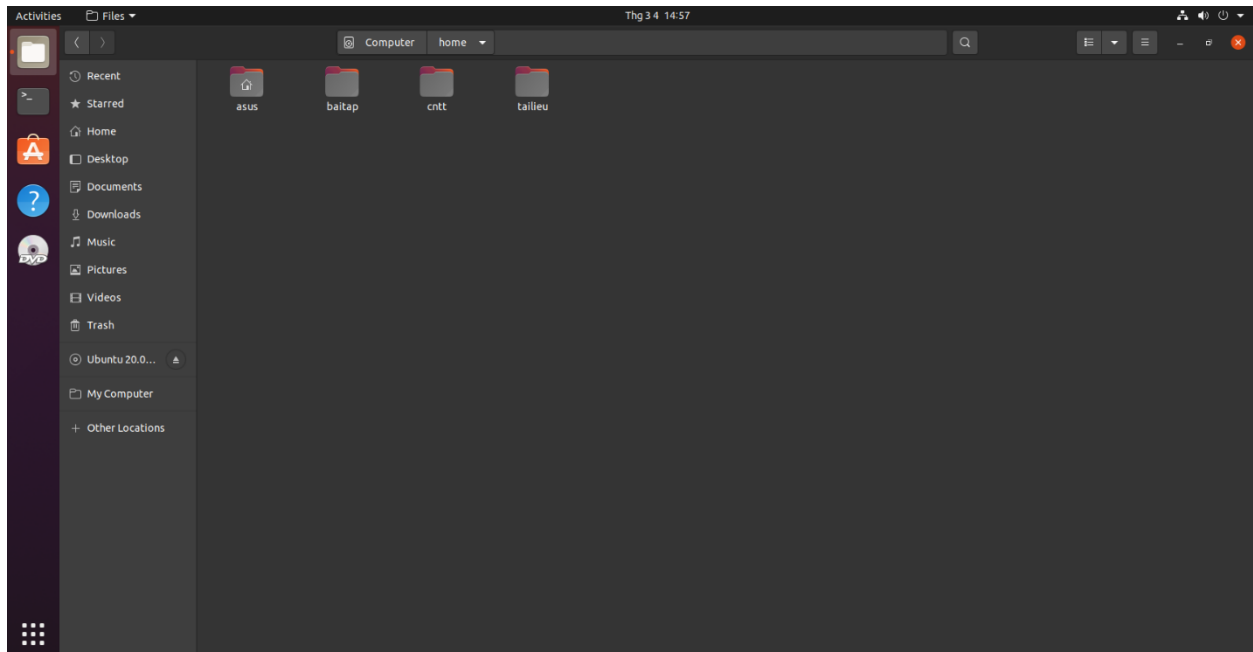


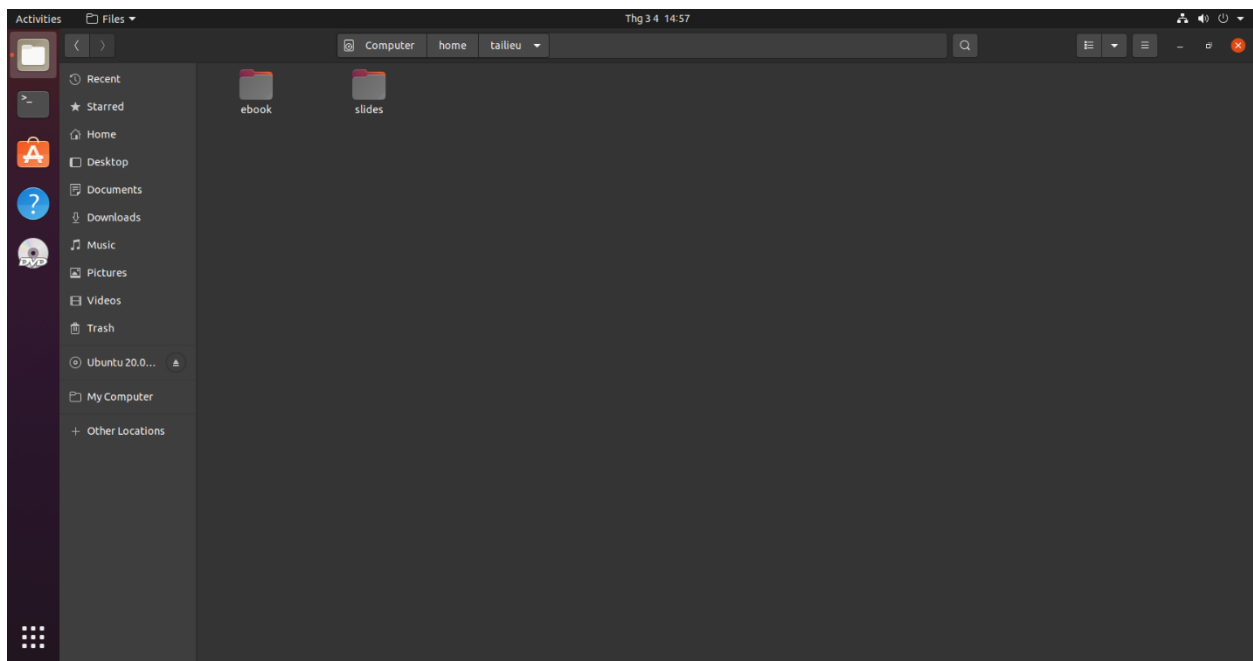
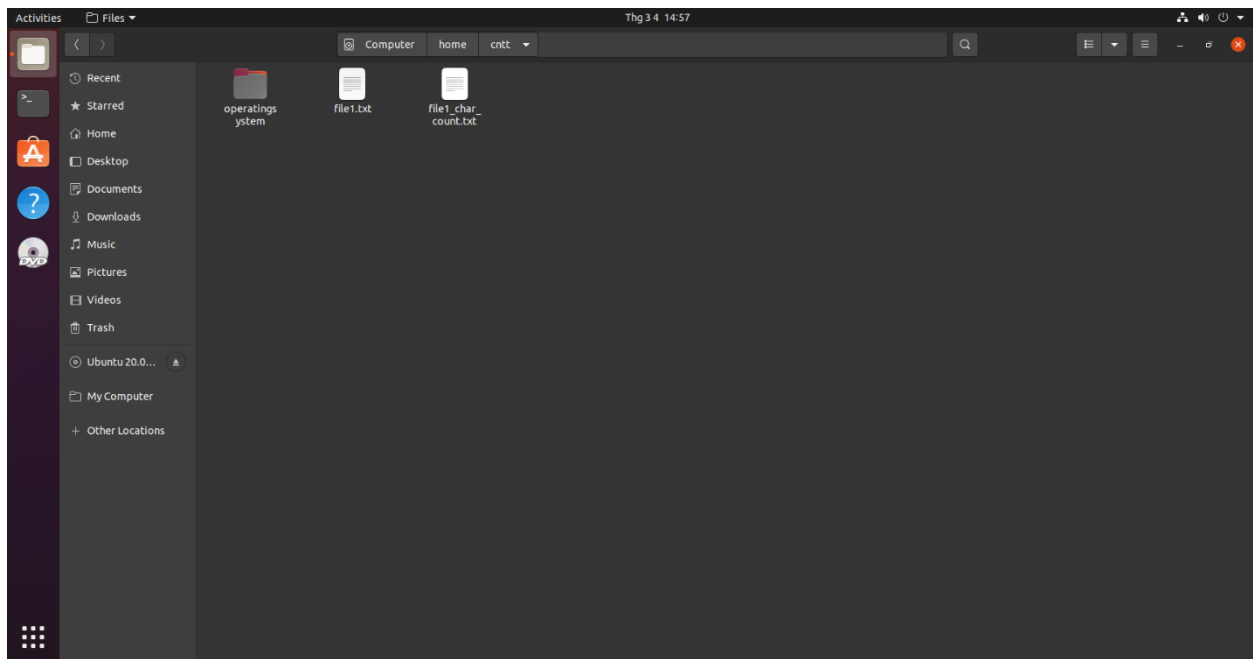
# LAB 1

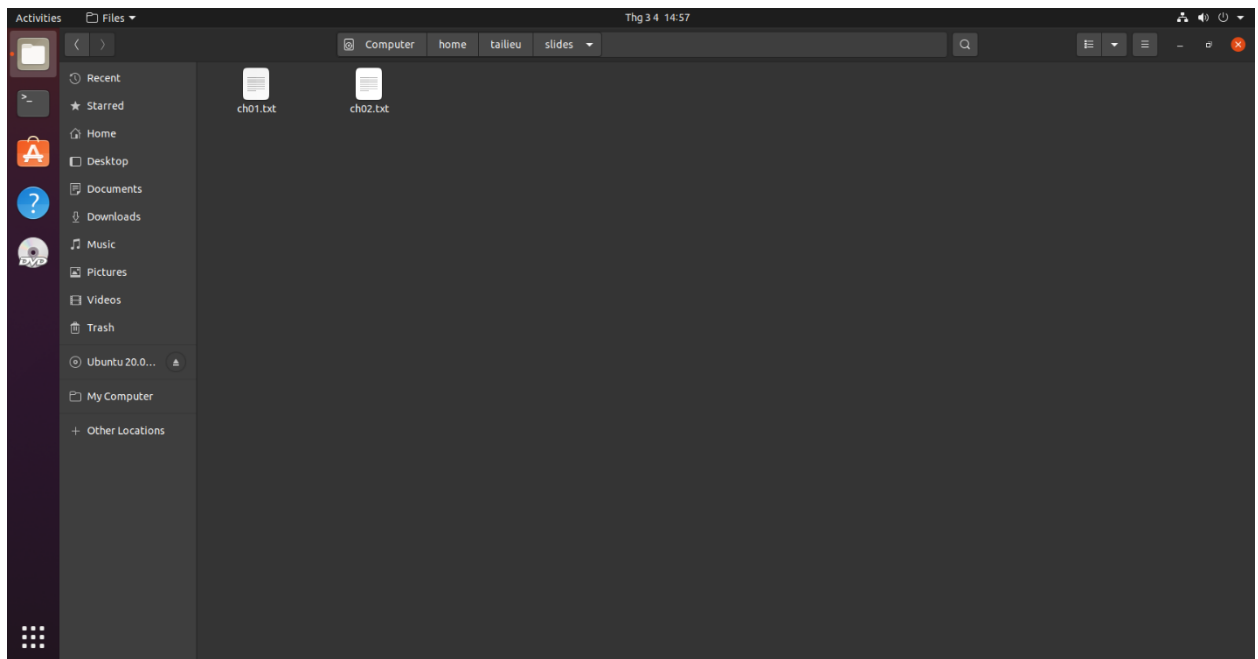
## Câu 1:



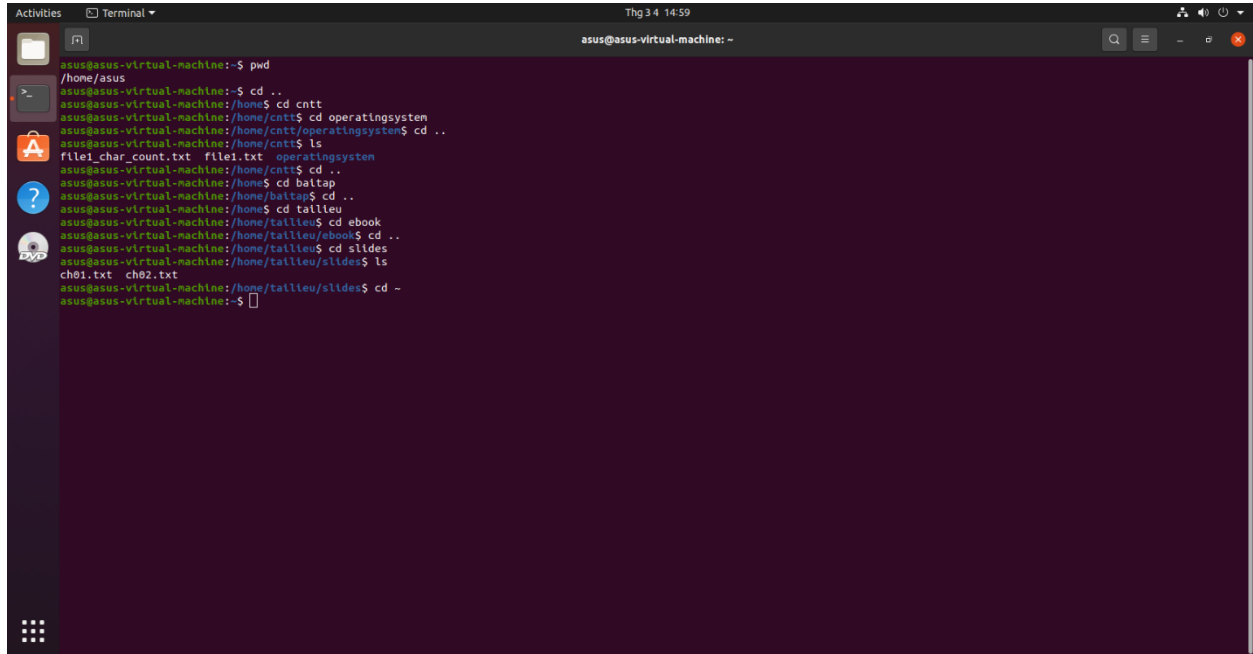
```
asus@asus-virtual-machine:~$ pwd
/home/asus
asus@asus-virtual-machine:~$ cd ..
asus@asus-virtual-machine:/home$ sudo mkdir cntt
[sudo] password for asus:
asus@asus-virtual-machine:/home$ sudo mkdir cntt
mkdir: cannot create directory 'cntt': File exists
asus@asus-virtual-machine:/home$ cd cntt
asus@asus-virtual-machine:/home/cntt$ sudo touch file1.txt file1_char_count.txt
asus@asus-virtual-machine:/home/cntt$ sudo mkdir operatingsystem
asus@asus-virtual-machine:/home/cntt$ cd ..
asus@asus-virtual-machine:/home$ sudo mkdir baitap tailieu
asus@asus-virtual-machine:/home$ cd tailieu
asus@asus-virtual-machine:/home/tailieu$ sudo mkdir ebook slides
asus@asus-virtual-machine:/home/tailieu$ cd slides
asus@asus-virtual-machine:/home/tailieu/slides$ sudo touch ch01.txt ch02.txt
asus@asus-virtual-machine:/home/tailieu/slides$
```







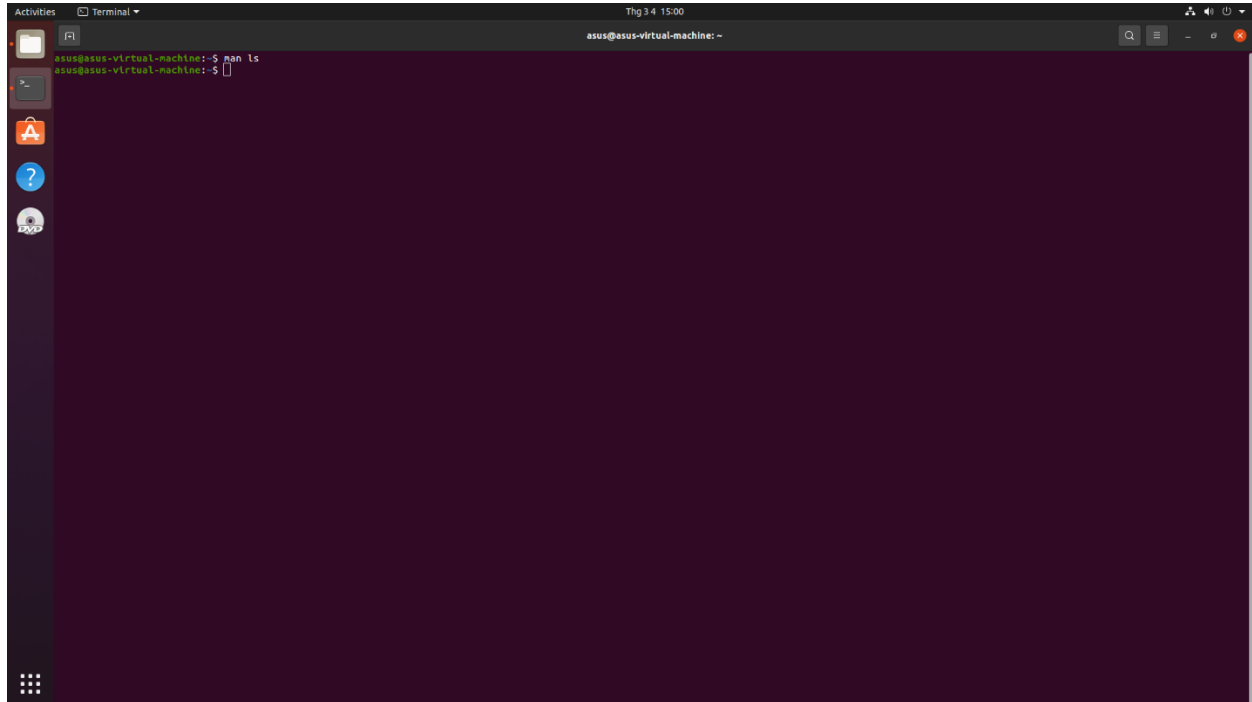
## Câu 2:



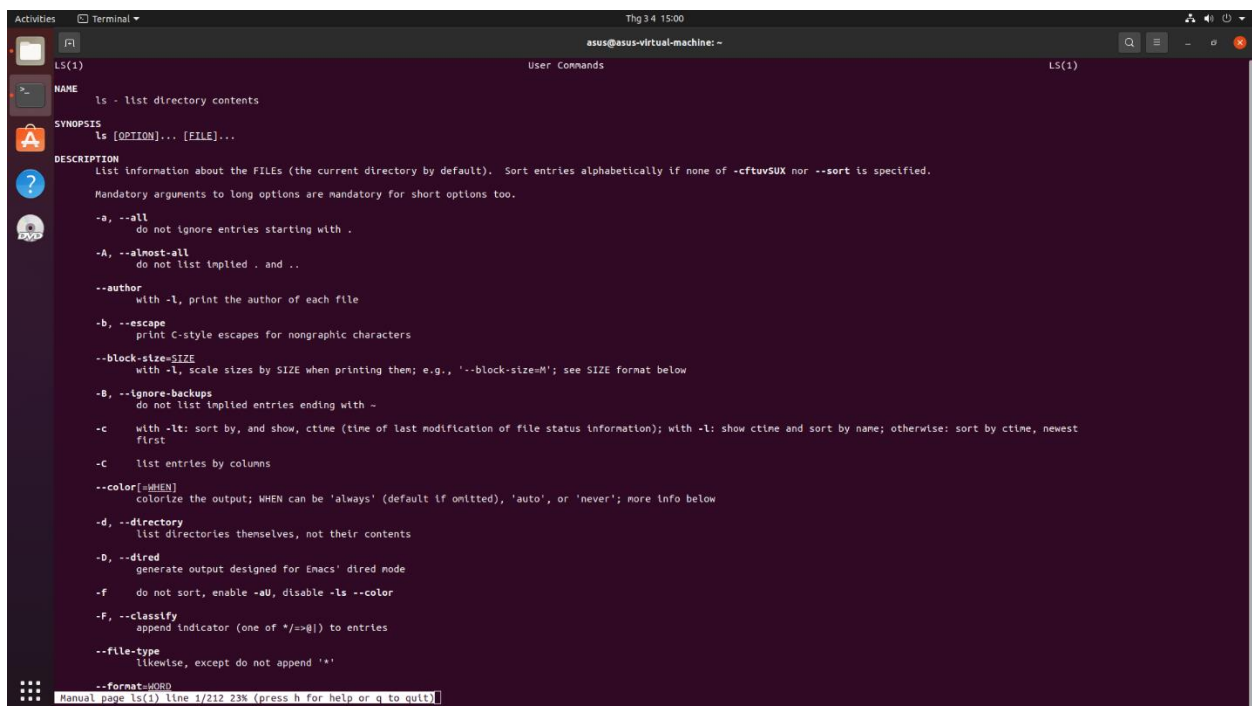
The screenshot shows a terminal window titled "Terminal" with the date and time "Thg 3 4 14:59". The user is logged in as "asus" on a virtual machine named "asus-virtual-machine". The terminal displays a sequence of commands and their outputs, showing the user navigating through a directory structure. The commands and outputs are as follows:

```
asus@asus-virtual-machine:~$ pwd
/home/asus
asus@asus-virtual-machine:~$ cd ..
asus@asus-virtual-machine:/home$ cd cntt
asus@asus-virtual-machine:/home/cntt$ cd operatingsystem
asus@asus-virtual-machine:/home/cntt/operatingsystem$ cd ..
asus@asus-virtual-machine:/home/cntt$ ls
file1_char_count.txt file1.txt operatingsystem
asus@asus-virtual-machine:/home/cntt$ cd ..
asus@asus-virtual-machine:/home$ cd baitap
asus@asus-virtual-machine:/home/baitap$ cd ..
asus@asus-virtual-machine:/home$ cd tailieu
asus@asus-virtual-machine:/home/tailieu$ cd ebook
asus@asus-virtual-machine:/home/tailieu/ebook$ cd ..
asus@asus-virtual-machine:/home/tailieu$ cd slides
asus@asus-virtual-machine:/home/tailieu/slides$ ls
ch01.txt ch02.txt
asus@asus-virtual-machine:/home/tailieu/slides$ cd -
asus@asus-virtual-machine:~$
```

### Câu 3:



```
asus@asus-virtual-machine:~$ man ls
asus@asus-virtual-machine:~$
```



```
LS(1)
User Commands
LS(1)

NAME
ls - list directory contents

SYNOPSIS
ls [OPTION]... [FILE]...

DESCRIPTION
List information about the FILES (the current directory by default). Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.
Mandatory arguments to long options are mandatory for short options too.

-a, --all
do not ignore entries starting with .

-A, --almost-all
do not list implied . and ..

--author
with -l, print the author of each file

-b, --escape
print C-style escapes for nongraphic characters

--block-size=SIZE
with -l, scale sizes by SIZE when printing them; e.g., '--block-size=M'; see SIZE format below

-B, --ignore-backups
do not list implied entries ending with ~

-e
with -lt: sort by, and show, ctime (time of last modification of file status information); with -l: show ctime and sort by name; otherwise: sort by ctime, newest first

-C
list entries by columns

--color[=WHEN]
colorize the output; WHEN can be 'always' (default if omitted), 'auto', or 'never'; more info below

-d, --directory
list directories themselves, not their contents

-D, --dired
generate output designed for Emacs' dired mode

-f
do not sort, enable -aU, disable -ls --color

-F, --classify
append indicator (one of */=>@|) to entries

--file-type
likewise, except do not append '*'

--format=FORMAT
Manual page ls(8) line 1/212 23% (press h for help or q to quit)
```

Để di chuyển trong các trang thông tin đó ta có thể sử dụng mũi tên lên, xuống hoặc sử dụng con lăn chuột. Để thoát ra ta nhấn phím [Q].

## Câu 4:

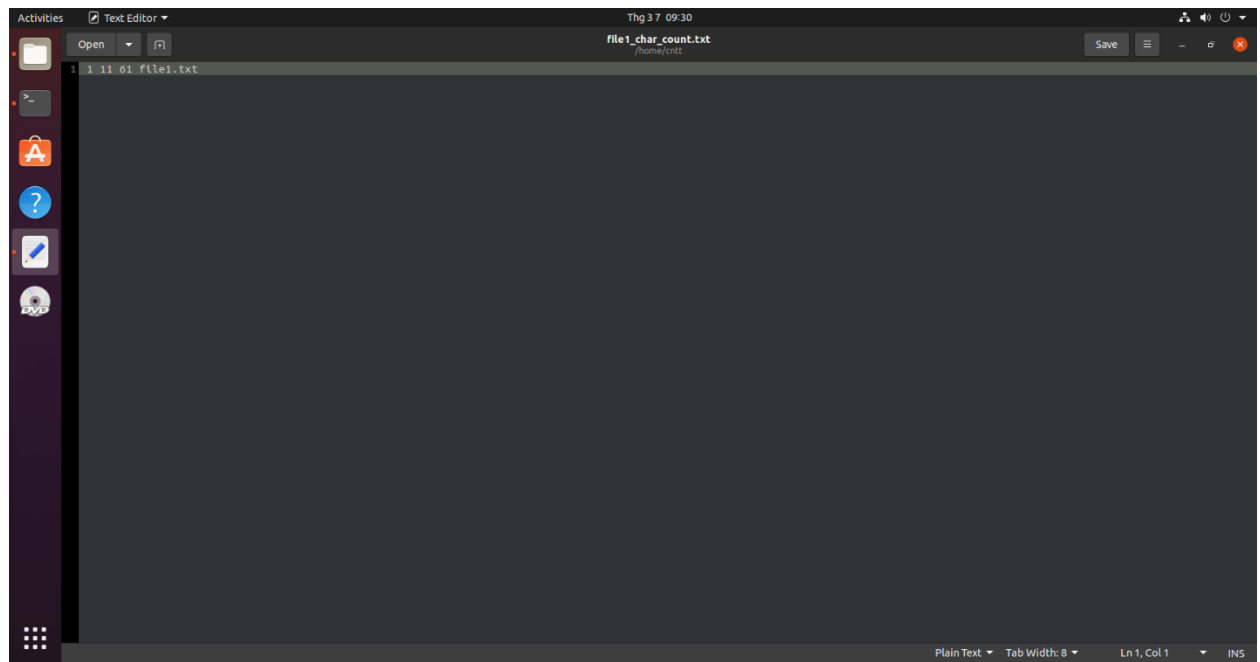
```
Activities Terminal Thg 3 7 09:29
asus@asus-virtual-machine: /home/cntt

asus@asus-virtual-machine:~$ pwd
/home/asus
asus@asus-virtual-machine:~$ cd ..
asus@asus-virtual-machine:/home$ cd cntt
asus@asus-virtual-machine:/home/cntt$ ls
file1_char_count.txt file1.txt operatingsystem
asus@asus-virtual-machine:/home/cntt$ sudo gedit file1.txt
(gedit:5381): Tepl-WARNING **: 09:27:33.020: GVfs metadata is not supported. Fallback to TeplMetadataManager. Either GVfs is not correctly installed or GVfs metadata are not support
ed on this platform. In the latter case, you should configure Tepl with --disable-gvfs-metadata.
asus@asus-virtual-machine:/home/cntt$ cat file1.txt
Welcome to Ubuntu, how do you feel about this new interface?
asus@asus-virtual-machine:/home/cntt$ ls -l
total 0
-rw-r--r-- 1 root root  0 Thg 3  7 09:26 file1_char_count.txt
-rw-r--r-- 1 root root 61 Thg 3  7 09:27 file1.txt
drwxr-xr-x 2 root root 4096 Thg 3  4 14:56 operatingsystem
asus@asus-virtual-machine:/home/cntt$ sudo chmod o+w file1_char_count.txt
asus@asus-virtual-machine:/home/cntt$ ls -l
total 0
-rw-rw-rw- 1 root root  0 Thg 3  7 09:26 file1_char_count.txt
-rw-r--r-- 1 root root 61 Thg 3  7 09:27 file1.txt
drwxr-xr-x 2 root root 4096 Thg 3  4 14:56 operatingsystem
asus@asus-virtual-machine:/home/cntt$ sudo chmod g+w file1_char_count.txt
asus@asus-virtual-machine:/home/cntt$ ls -l
total 0
-rw-rw-rw- 1 root root  0 Thg 3  7 09:26 file1_char_count.txt
-rw-r--r-- 1 root root 61 Thg 3  7 09:27 file1.txt
drwxr-xr-x 2 root root 4096 Thg 3  4 14:56 operatingsystem
asus@asus-virtual-machine:/home/cntt$ sudo wc file1.txt > file1_char_count.txt
asus@asus-virtual-machine:/home/cntt$ cat file1_char_count.txt
1 11 61 file1.txt
asus@asus-virtual-machine:/home/cntt$
```

```
Activities Text Editor Thg 3 7 09:30
file1.txt [Read-Only]
/home/cntt

1 Welcome to Ubuntu, how do you feel about this new interface?
```

Plain Text Tab Width: 8 Ln 1, Col 1 INS



## Câu 5:

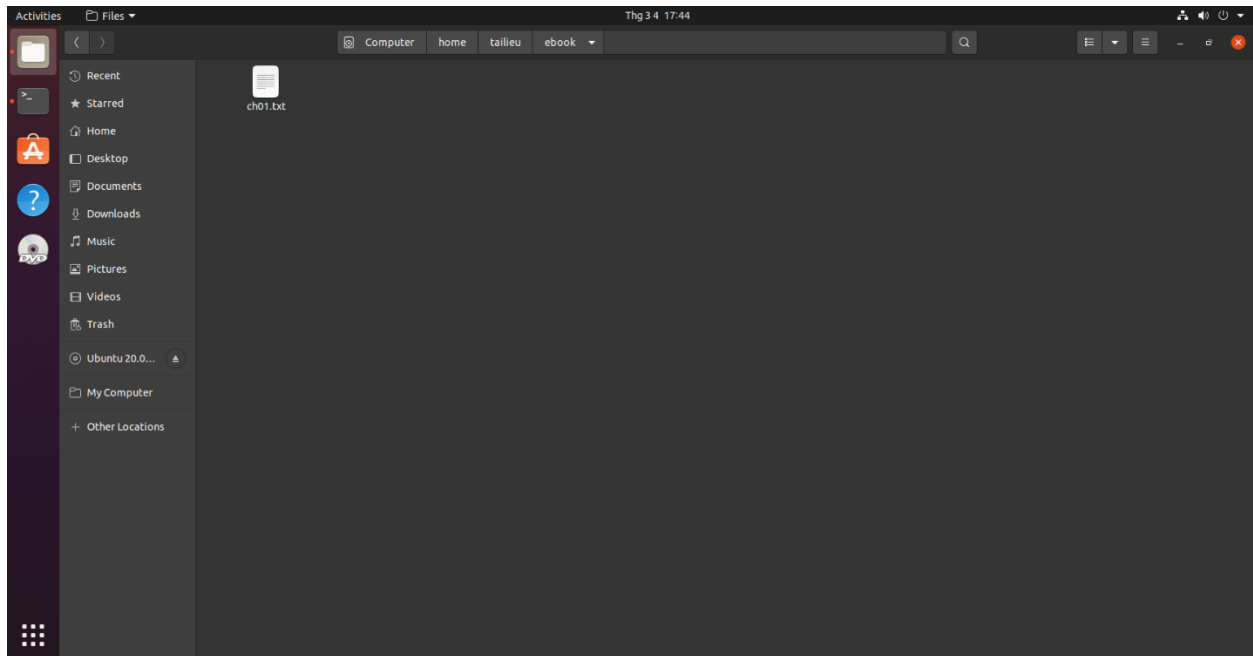
```
Activities Terminal Thg 3 5 10:49
asus@asus-virtual-machine: /
asus@asus-virtual-machine:~$ pwd
/home/asus
asus@asus-virtual-machine:~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
asus@asus-virtual-machine:~$ ls -a
. .cache .gnupg .profile Templates
.. .config .local Public .thunderbird
.bash_history Desktop .mozilla snap Videos
.bash_logout Documents Music .ssh
.bashrc Downloads Pictures .sudo_as_admin_successful
asus@asus-virtual-machine:~$ cd ..
asus@asus-virtual-machine:/home$ ls -a
. . . asus kaitap celebrating-hot-an catt tallieu
asus@asus-virtual-machine:/home$ cd ..
asus@asus-virtual-machine:/$ ls -a
. . boot etc lib32 lost+found opt run srv tmp
.. cdrom home lib64 media proc sbin swapfile usr
bin dev lib lib32 mnt root snap sys var
asus@asus-virtual-machine:/$
```



## Câu 6:

```
Activities Terminal Thg 3 4 17:44
asus@asus-virtual-machine: /home/tailieu/ebook

asus@asus-virtual-machine:~$ pwd
/home/asus
asus@asus-virtual-machine:~$ cd ..
asus@asus-virtual-machine:~$ ls
asus  baltap  celebrating-hoi-an  cntt  tailieu
asus@asus-virtual-machine:~$ cd tailieu
asus@asus-virtual-machine:~/tailieu$ ls
ebook  slides
asus@asus-virtual-machine:~/tailieu$ cd slides
asus@asus-virtual-machine:~/tailieu/slides$ ls
ch01.txt  ch02.txt
asus@asus-virtual-machine:~/tailieu/slides$ mv ch01.txt ../ebook
mv: cannot move 'ch01.txt' to '../ebook/ch01.txt': Permission denied
asus@asus-virtual-machine:~/tailieu/slides$ sudo mv ch01.txt ../ebook
asus@asus-virtual-machine:~/tailieu/slides$ ls
ch02.txt
asus@asus-virtual-machine:~/tailieu/slides$ cd ..
asus@asus-virtual-machine:~/tailieu$ ls
ebook  slides
asus@asus-virtual-machine:~/tailieu$ cd ebook
asus@asus-virtual-machine:~/tailieu/ebook$ ls
ch01.txt
asus@asus-virtual-machine:~/tailieu/ebook$
```



## Câu 7:

```
Activities Terminal Thg 3 5 10:44
asus@asus-virtual-machine: /
asus@asus-virtual-machine:~$ pwd
/home/asus
asus@asus-virtual-machine:~$ cd ..
asus@asus-virtual-machine:~$ ls -alh *
-rw-r--r-- 1 root root 2,2M Thg 3 4 17:30 celebrating-hol-an

asus:
total 92K
drwxr-xr-x 18 asus asus 4,0K Thg 3 4 17:28 .
drwxr-xr-x 6 root root 4,0K Thg 3 4 17:30 ..
-rw-r--r-- 1 asus asus 5,2K Thg 3 5 10:43 .bash_history
-rw-r--r-- 1 asus asus 220 Thg 2 25 00:02 .bash_logout
-rw-r--r-- 1 asus asus 3,7K Thg 2 25 00:02 .bashrc
drwxr-xr-x 16 asus asus 4,0K Thg 3 4 14:29 .cache
drwxr-xr-x 16 asus asus 4,0K Thg 3 4 14:37 .config
drwxr-xr-x 3 asus asus 4,0K Thg 2 25 00:33 Desktop
drwxr-xr-x 2 asus asus 4,0K Thg 2 25 00:00 Documents
drwxr-xr-x 2 asus asus 4,0K Thg 2 25 00:00 Downloads
drwxr-xr-x 3 asus asus 4,0K Thg 3 4 17:56 .gnupg
drwxr-xr-x 3 asus asus 4,0K Thg 2 25 00:06 Local
drwxr-xr-x 4 asus asus 4,0K Thg 3 4 14:20 .mozilla
drwxr-xr-x 2 asus asus 4,0K Thg 2 25 00:06 Music
drwxr-xr-x 7 asus asus 4,0K Thg 3 5 10:43 Pictures
-rw-r--r-- 1 asus asus 807 Thg 2 25 00:02 .profile
drwxr-xr-x 2 asus asus 4,0K Thg 2 25 00:06 Public
drwxr-xr-x 3 asus asus 4,0K Thg 2 25 00:33 snap
drwxr-xr-x 2 asus asus 4,0K Thg 2 25 00:07 .ssh
-rw-r--r-- 1 asus asus 0 Thg 2 25 00:10 .sudo_as_admin_successful
drwxr-xr-x 2 asus asus 4,0K Thg 2 25 00:30 Templates
drwxr-xr-x 6 asus asus 4,0K Thg 3 4 14:20 .thunderbird
drwxr-xr-x 2 asus asus 4,0K Thg 2 25 00:06 Videos

baltap:
total 8,0K
drwxr-xr-x 2 root root 4,0K Thg 3 4 14:56 .
drwxr-xr-x 6 root root 4,0K Thg 3 4 17:30 ..

cntt:
total 16K
drwxr-xr-x 3 root root 4,0K Thg 3 4 17:14 .
drwxr-xr-x 6 root root 4,0K Thg 3 4 17:30 ..
-rw-r--r-- 1 root root 0 Thg 3 4 14:56 file1_char_count.txt
-rw-r--r-- 1 root root 61 Thg 3 4 17:14 file1.txt
drwxr-xr-x 2 root root 4,0K Thg 3 4 14:56 operatingsystem

tallieu:
total 16K
drwxr-xr-x 4 root root 4,0K Thg 3 4 14:57 .
drwxr-xr-x 6 root root 4,0K Thg 3 4 17:30 ..
drwxr-xr-x 2 root root 4,0K Thg 3 4 17:44 ebook
drwxr-xr-x 2 root root 4,0K Thg 3 4 17:44 slides
asus@asus-virtual-machine:~$ cd ..
asus@asus-virtual-machine:/$ du -sh home
67M home
asus@asus-virtual-machine:/$
```

## Câu 8:

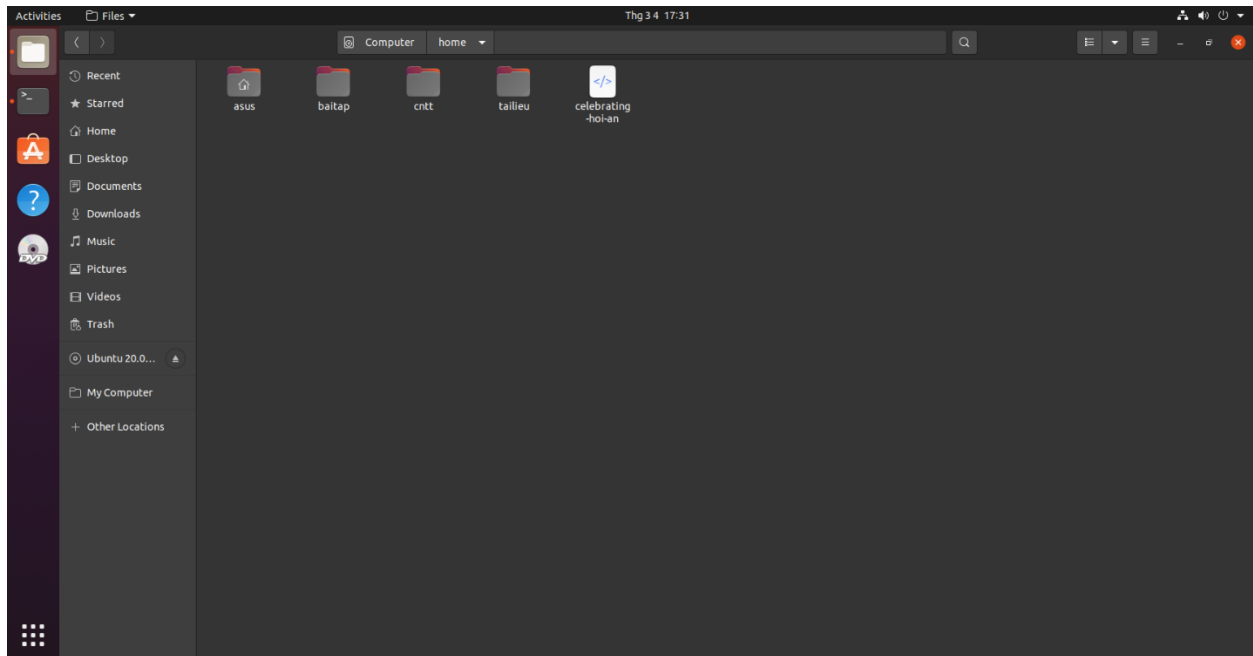
```
Activities Terminal Thg 3 4 17:30
asus@asus-virtual-machine: /home

asus@asus-virtual-machine:~$ pwd
/home/asus
asus@asus-virtual-machine:~$ cd ..
asus@asus-virtual-machine:~/home$ sudo wget https://www.google.com/doodles/celebrating-hoi-an
--2022-03-04 17:30:30-- https://www.google.com/doodles/celebrating-hoi-an
Resolving www.google.com (www.google.com)... 74.125.24.99, 74.125.24.103, 74.125.24.147, ...
Connecting to www.google.com (www.google.com)[74.125.24.99]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2218009 (2.1M) [text/html]
Saving to: 'celebrating-hoi-an'

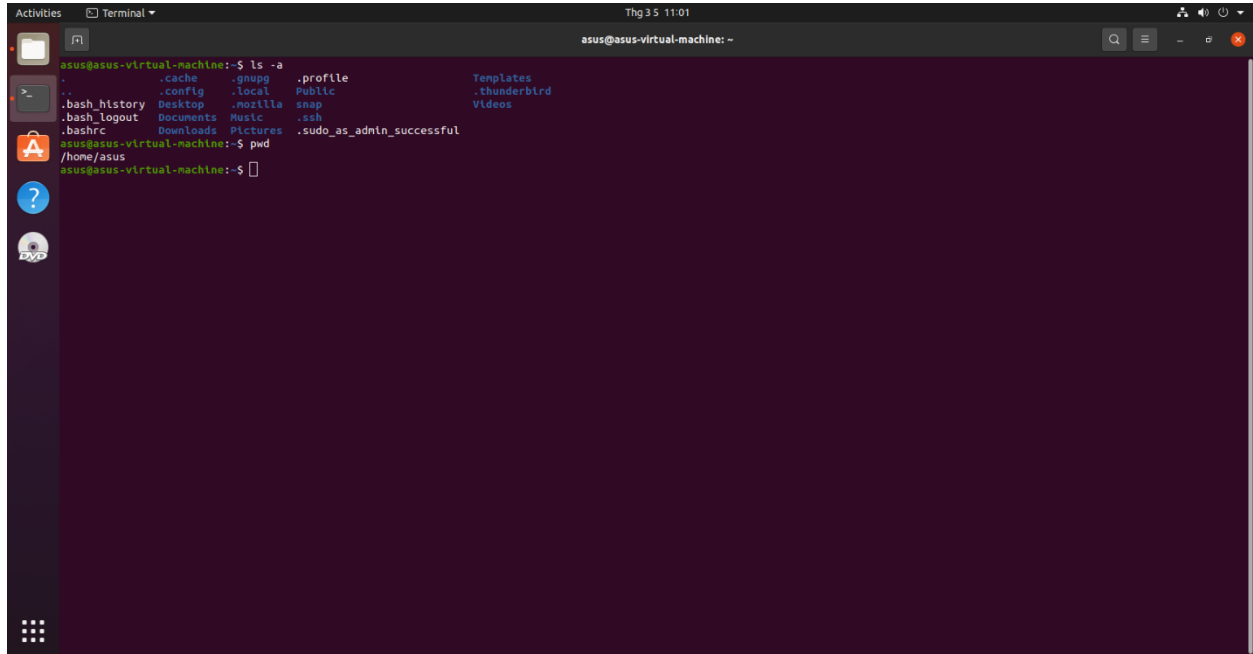
celebrating-hoi-an          5%[====>] 119,22K  celebrating-hoi-an  58
celebrating-hoi-an          82%[=====>] 1,74M  868KB/s
celebrating-hoi-an         100%[=====] 2,12M  937KB/s   in 2,3s

2022-03-04 17:30:34 (937 KB/s) - 'celebrating-hoi-an' saved [2218009/2218009]

asus@asus-virtual-machine:~/home$
```



## Câu 9:



The image shows a terminal window titled "Terminal" with the hostname "asus@asus-virtual-machine: ~". The terminal displays the output of the command `ls -a`, which lists all files and directories, including hidden ones. The output is as follows:

```
asus@asus-virtual-machine:~$ ls -a
.          .cache      .gnupg     .profile   Templates
..         .config     .local     Public     .thunderbird
.bash_history Desktop    .nozilla   snap       Videos
.bash_logout Documents  Music      .ssh
.bashrc     Downloads Pictures  .sudo_as_admin_successful

asus@asus-virtual-machine:~$ pwd
/home/asus
asus@asus-virtual-machine:~$
```

The terminal window has a dark theme and a sidebar on the left with icons for Activities, Terminal, and a search icon. The top bar shows the time as "Thg 3 5 11:01".

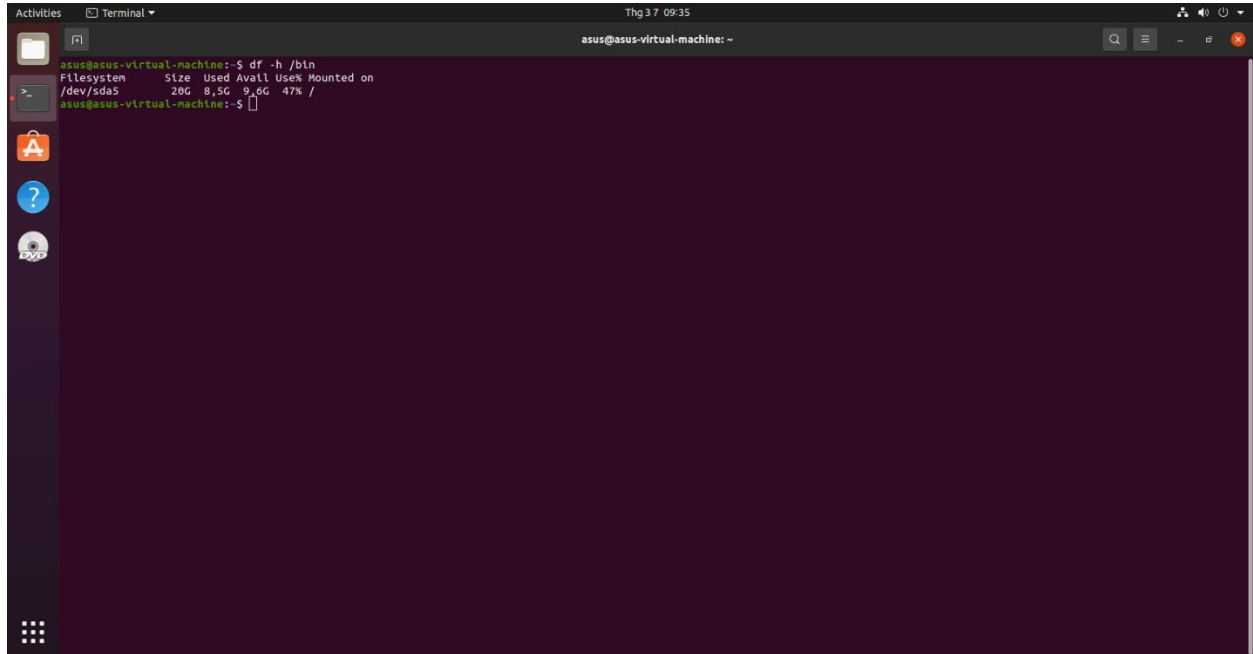
## Câu 10:

```
Activities Terminal Thg 3 5 11:05
asus@asus-virtual-machine: /boot

asus@asus-virtual-machine:~$ pwd
/home/asus
asus@asus-virtual-machine:~$ cd ..
asus@asus-virtual-machine:~$ cd boot
asus@asus-virtual-machine:/boot$ ls -alh *
-rw-r--r-- 1 root root 248K Thg 8 11 2021 config-5.11.0-27-generic
-rw-r--r-- 1 root root 252K Thg 2 7 21:01 config-5.13.0-30-generic
lrwxrwxrwx 1 root root 20 Thg 2 25 00:05 initrd.img -> initrd.img-5.13.0-30-generic
-rw-r--r-- 1 root root 51M Thg 2 25 00:25 initrd.img-5.11.0-27-generic
-rw-r--r-- 1 root root 57M Thg 2 25 00:26 initrd.img-5.13.0-30-generic
lrwxrwxrwx 1 root root 28 Thg 2 24 23:59 initrd.img.old -> initrd.img-5.11.0-27-generic
-rw-r--r-- 1 root root 179K Thg 8 18 2020 memtest86+.bin
-rw-r--r-- 1 root root 181K Thg 8 18 2020 memtest86+.elf
-rw-r--r-- 1 root root 181K Thg 8 18 2020 memtest86+.multiboot.bin
-rw-r----- 1 root root 5,6M Thg 8 11 2021 System.map-5.11.0-27-generic
-rw-r----- 1 root root 5,7M Thg 2 7 21:01 System.map-5.13.0-30-generic
lrwxrwxrwx 1 root root 25 Thg 2 25 00:05 vmlinuz -> vmlinuz-5.13.0-30-generic
-rw-r--r-- 1 root root 9,7M Thg 8 19 2021 vmlinuz-5.11.0-27-generic
-rw-r----- 1 root root 9,7M Thg 2 7 21:03 vmlinuz-5.13.0-30-generic
lrwxrwxrwx 1 root root 25 Thg 2 25 00:05 vmlinuz.old -> vmlinuz-5.11.0-27-generic

ls: cannot open directory 'efi': Permission denied
grub:
total 2,4M
drwxr-xr-x 4 root root 4,0K Thg 2 25 00:06 .
drwxr-xr-x 4 root root 4,0K Thg 2 25 00:26 ..
drwxr-xr-x 2 root root 4,0K Thg 2 25 00:03 fonts
-rw-r--r-- 1 root root 712 Thg 8 19 2021 gfxblacklist.txt
-r--r--r-- 1 root root 9,8K Thg 2 25 00:06 grub.cfg
-rw-rw-r-- 1 root root 1,0K Thg 3 5 00:37 grubenv
drwxr-xr-x 2 root root 12K Thg 2 25 00:03 isos-pc
-rw-r--r-- 1 root root 2,3M Thg 8 19 2021 unicode.pf2
asus@asus-virtual-machine:/boot$
```

## Câu 11:

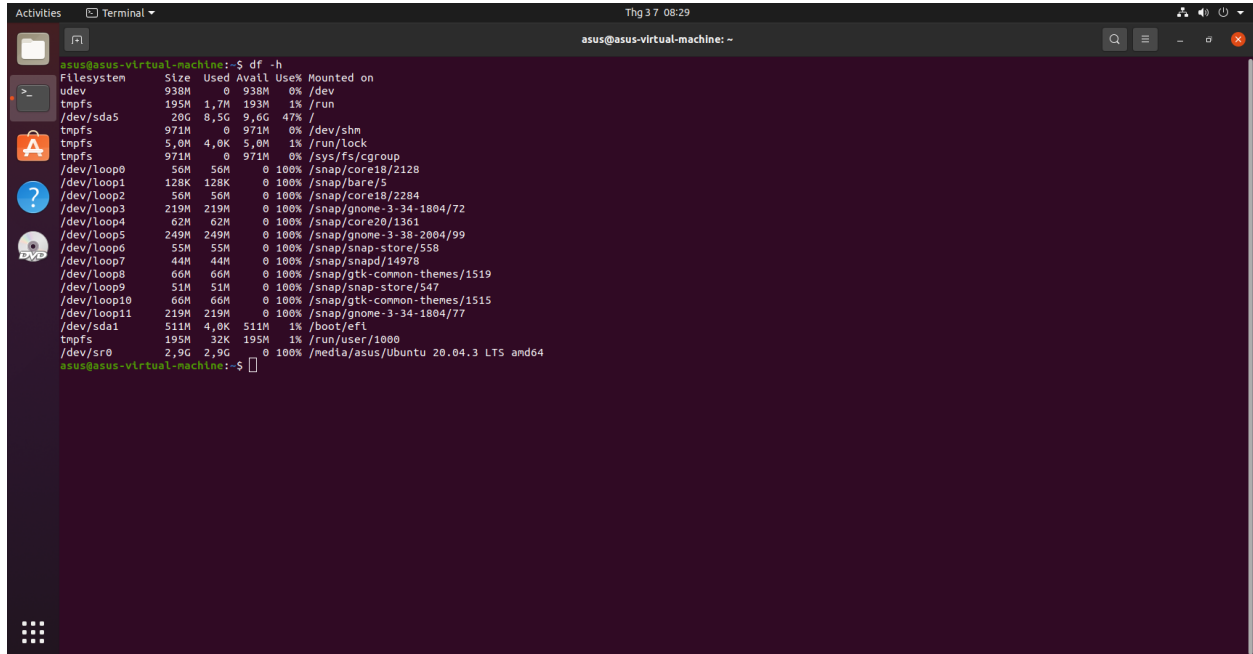


The screenshot shows a terminal window titled "Terminal" with the hostname "asus@asus-virtual-machine: ~". The user has executed the command `df -h /bin`, which displays the disk space usage for the `/bin` directory. The output is as follows:

Filesystem	Size	Used	Avail	Use%	Mounted on
/dev/sda5	28G	8,5G	9,6G	47%	/

The terminal window also shows the prompt `asus@asus-virtual-machine:~$` and a sidebar with application icons on the left.

## Câu 12:



The screenshot shows a terminal window titled "Terminal" with the prompt "asus@asus-virtual-machine: ~". The user has executed the command "df -h", which displays the disk usage for various file systems. The output is as follows:

Filesystem	Size	Used	Avail	Use%	Mounted on
udev	938M	0	938M	0%	/dev
tmpfs	195M	1,7M	193M	1%	/run
/dev/sda5	20G	8,5G	9,6G	47%	/
tmpfs	971M	0	971M	0%	/dev/shm
tmpfs	5,0M	4,0K	5,0M	1%	/run/lock
tmpfs	971M	0	971M	0%	/sys/fs/cgroup
/dev/loop0	56M	56M	0	100%	/snap/core18/2128
/dev/loop1	128K	128K	0	100%	/snap/bare/s
/dev/loop2	56M	56M	0	100%	/snap/core18/2284
/dev/loop3	219M	219M	0	100%	/snap/gnome-3-34-1804/72
/dev/loop4	62M	62M	0	100%	/snap/core20/1361
/dev/loop5	249M	249M	0	100%	/snap/gnome-3-38-2004/99
/dev/loop6	55M	55M	0	100%	/snap/snap-store/558
/dev/loop7	44M	44M	0	100%	/snap/snapd/14978
/dev/loop8	66M	66M	0	100%	/snap/gtk-common-themes/1519
/dev/loop9	51M	51M	0	100%	/snap/snap-store/547
/dev/loop10	66M	66M	0	100%	/snap/gtk-common-themes/1515
/dev/loop11	219M	219M	0	100%	/snap/gnome-3-34-1804/77
/dev/sda1	511M	4,0K	511M	1%	/boot/efi
tmpfs	195M	32K	195M	1%	/run/user/1000
/dev/sr0	2,9G	2,9G	0	100%	/media/asus/Ubuntu 20.04.3 LTS amd64

The terminal prompt is now "asus@asus-virtual-machine:~\$".